REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-13 are pending and stand rejected.

Claims 1 and 12 are independent claims.

Claim 12 has been amended to correct a typographical error.

Applicant thanks the Examiner for his time to discuss the invention claimed and the references cited on June 24, 2011.

In response to the interview, the independent claims have been amended to refer to a first and, adjacent, second subperiod.

In the instant Office Action, the Office Action states "[a]pplicant's arguments filed on 6/27/2011 have been fully considered but they are not persuasive. Regarding claims 1 and 12, applicant argues Yamazaki fails to provide any teaching to correct the deficiency found to exist in Friend, i.e., Yamazaki fails to teach dividing said frame period into a first sub-period and an adjacent second sub-period. Examiner disagrees and Applicant's attention is drawn, as cited above to Figures 3-5 and col. 5, lines 6t-45 of Yamazaki. Specifically, as shown in line '7' of Fig. 3A the first and second sub-periods are adjacent in time. i.e., there is no zero voltage period in between the first and second non-zero voltage periods. Thus, the rejection of claims 1-12 is maintained." (see page 7).

However, applicant would note that in the prior Office action, claims 1 and 12 were rejected as being anticipated by Friend. Thus, the comments made in reply to the Yamazaki teaching a first and second, adjacent, subperiod, while notable, Applicant submits that because the prior Office action has not asserted that claims 1 and 12 are unpatentable over the combination of Friend and Yamazaki, that the reason for the rejection of the claims as being anticipated by Friend has been overcome. That is, applicants arguments were addressed to the rejection of the independent claims 1 and 12 as being anticipated by Friend and not rendered unpatentable over the combination of Friend and Yamazaki.

In addition, because the instant Office action has addressed a rejection of the claims that was not originally cited in the prior Office action, Applicant submits that the designating of the instant Office action as Final is premature. Applicant respectfully requests that the designation of Final be withdrawn and a new Office action be issued addressing the amendments to the claims and the remarks presented herein.

Claims 1, 3-4, 7-8 and 12-13 stand rejected under 35 USC 102(b) as being anticipated by Friend (USP 6,429,601, hereinafter D1). Claims 2, 5-6 and 9-11 stand rejected under 35 USC 103(a) as being unpatentable over D1 in view of Yamazaki (USP 6,326,941, hereinafter D2).

In response to the newly cited rejection of the independent claims 1 and 12 has being unpatentable over Friend and Yamazaki, applicant respectfully disagrees with and explicitly traverses the rejection of the claims.

The Office Action asserts that D1 discloses an active matrix display device, a data input for receiving a data signal (fig. 6, control unit 24), a controller of distributing the data signal over the display pixels to generate an image with an overall rightness level during at least one frame period (fig. 6, processing means 28 and switch 310, wherein said device is adapted to divide said frame period for at least one subset of display pixels (fig. 7, 8) second cycle of fig. 8, divided into two sub-periods) such that said display pixels of said at least one subset have at least a light output at a first non-zero brightness level during a first sub-period of said frame period (fig. 8, first pulse of second cycle) and at a second non-zero brightness level during a second sub-period of said frame (fig. 8, second pulse of second cycle), wherein the first and second levels of brightness are selected so as the time averaged sum of said brightness levels of said pixels within said at least one subset is substantially equal to said overall brightness level of said image (figs. 7 and 8, on-time of the pixel is applied as a series of pulses to give

total on-time per cycle needed to achieve the required duty cycle), said second level being maintained at a stable level during the second sub period and the first and second levels being in a known ratio (fig. 8, col, 7, lines 1-56).

In addition, with regard to Yamazaki, the Office action asserts that Yamazaki teaches dividing said frame period into a first sub-period and an adjacent second sub-period. (Figs. 3-05, e.g., line '7' of fig. 3A, first and second sub-period are adjacent, see col. 5, lines 6-45).

As previously characterized, Friend teaches a time division method for providing a brightness level to a subset of pixels by controlling the time period in which voltage is applied to the pixel drive circuits. With reference to Figures 7 and 8, which are referred to in the Office Action, Friend teaches a system for achieving a gray-scale brightness by allowing for different times that a constant voltage level is applied to the pixel to achieve a desired brightness level. (see for example, col. 7, lines 19-25; "[a] number of detailed drive schemes could be used to achieve the desired brightness of each pixel. For instance the pixel could … be turned on once and off once in each cycle with the time between the on and off switching chosen to achieve the required duty cycle (see Fig. 7) or more than once (see Fig. 8)."

See also, col. 7, lines 29-36, "[t]he on-time of the pixel is applied as a series of pulses of equal length … which when added together give the total on-time per cycle needed to achieve the required duty cycle. With the total on-time per cycle kept the same the pattern of current between the on-time and the off-time can be varied to suit other requirement…"

With regard to Figure 7, Friend teaches that a voltage may be applied continuously within a frame to achieve a desired on/off ratio and with regard to Figure 8, Friend teaches that a voltage may be applied as a series of pulses, wherein a single on/off voltage pulse may be applied during the cycle to achieve a brightness level of 10 percent. In addition, with regard to Figure 8, the number of on/off pulses within a cycle may be altered to achieve different levels of

brightness (see for example, col. 7, lines 25-29; "Fig. 8 shows a plot of applied current against time for a single pixel. The lines 36 separate cycles of the drive scheme. During the three cycles shown in Figure 8, the brightness of the pixel is increased from around 10% to around 40%."

Accordingly, in Figure 8, for example, Friend illustrates that in a first cycle with only one pulse, a 10% brightness may be achieved and in separate cycles, using 2 pules or 4 pulses that are substantially similar to the single pulse, then brightness levels of 20 percent and 40 percent, respectively, may be achieved.

Friend discloses that for a desired brightness to be achieved during a cycle (i.e., frame period F), a number of voltage (current) pulses may be applied to achieve the desired brightness. Thus, with regard to a 10 percent overall brightness level, then a single pulse is provided. And with a 20 percent overall brightness level, then two pulses is provided.

In supporting the rejection of the claims, the Office Action asserts that for 20 percent overall brightness level. Similarly for a 40 percent overall brightness level, FRIEND discloses periods of non-zero voltage and periods of zero voltage.

However, Friend discloses that in the frame (or cycle), in the 20 percent case, there is a ***first period of non-zero voltage and a second period of non-zero voltage*** a***nd at least one period of zero voltage*** in-between and after the second pulse.

Thus, Friend fails to disclose that the frame is divided into ***a first subperiod and an adjacent second subperiod.***

Rather, Friend discloses that the overall brightness level (e.g., 20 percent) is achieved with a first non-zero voltage period and a second non-zero voltage period and a zero voltage period in-between. There is also a zero voltage period after the second non-zero voltage pulse.

Thus, Friend fails to disclose at least one element recited in the claims (i.e., first and second periods of non-zero voltage). Figure 7 illustrates single periods of voltage and non-voltage and Figure 8 illustrates a plurality of periods of voltage and non-voltage. However, neither Figure 7 nor Figure 8 teaches a

first subperiod and an adjacent second period, each having a non-zero voltage level for the duration of the subperiod.

Referring to Figure 7 of Friend, Figure 7 illustrate three examples of two subframes. In the first example, one subframe includes a non-zero voltage and the second subframe includes a zero voltage (i.e., 10 percent brightness). The second and third examples also illustrate a non-zero voltage subframe and a zero-voltage subframe.

Thus, Figure 7 fails to illustrate a system with two adjacent subframes of non-zero voltages.

Figure 8 also illustrates three examples, wherein the first frame is divided into two subframes; one being non-zero and the other zero. (i.e., 10 percent brightness). The second and three frames are divided into four and 8 subframes respectively (20 percent and 40 percent brightness, respectively). The second frame includes two sub-frames having non-zero voltages and two subframes having zero voltage. The two subframes of non-zero voltage are not adjacent to each other and are separated by a subframe of non-zero voltage. The third frame includes 4 sub-frames of non-zero voltage and three subframes of zero voltage between the 4 sub-frames of non-zero voltage. The fourth subframe of non-zero voltage extends from the end of the last sub-frame (pulse) associated with the non-zero voltage and the end of the frame.

In supporting the rejection of the claims, the Office Action refers to the pulses generated in Figure 8 as being comparable to the sub-frames recited in the claims. Thus, the interpretation of the number of subframes within each frame illustrated by Friend is consistent with the interpretation provided by the Office action.

As shown Friend fails to show two non-zero adjacent sub-frames.

With reference to line '7' of Figure 3A of Yamazaki, Yamazaki teaches a system wherein a frame is divided into at least three subframes, labeled as "1," "16" and "4." Line "7" of Figure 3A illustrates that two of the subframes include non-zero voltages and the third subframe include non-zero voltage. See, for

example, line "37" which illustrates a first subframe of non-zero voltage, a second subframe of zero voltage and a three subframe of non zero voltage. Figure 4A illustrates a similar configuration wherein the frame is divided into four subframes (line "37; a first subframe of non-zero voltage, a second subframe of zero voltage and a three and fourth subframe of non zero voltage.).

Hence, Yamazaki fails to disclose a system where ***the frame is divided into a first and second, adjacent, subframes.*** Rather Yamazaki, discloses that the frame in divided into three and four subframes.

Thus, even if teachings of Yamazaki wherein incorporated into the teachings of Friend the combination would not include the elements of "**divide said frame period (F) into a first subperiod and an adjacent second subperiod,**" or "**a light output (L) at a first non-zero brightness level (L1) for a duration of the first sub-period (F1) of said frame period (F) and at a second non-zero brightness level (L2) for a duration of the second sub-period (F2) of said frame period (F).**"

Rather Friend teaches dividing the frame into a plurality of individual non-zero subrames with zero intervals inbetween. And the teachings of Yamazaki would take each of the non-zero subframes of Friend and divide this subframe (as if it were a frame) into a number of subframes as illustrated in Figures 3A, 3B, 4A, 4B, etc.

As an example, the combination of Friend and Yamazaki would create a system wherein the subframes are constructed as:

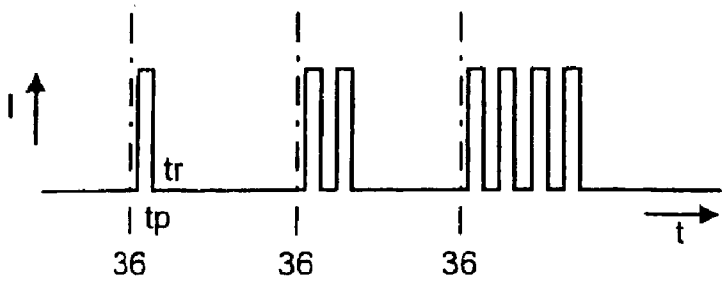

FIG. 8

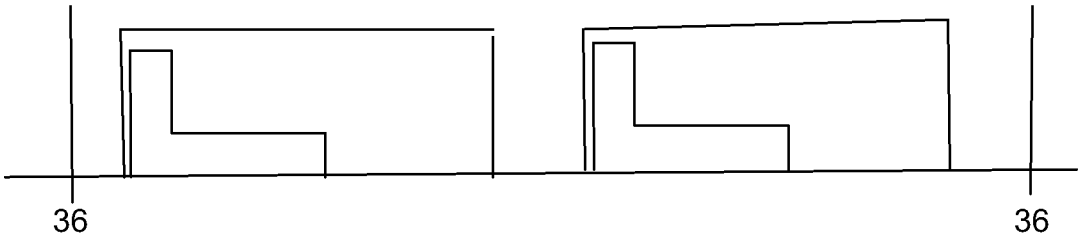

Figure 8, second frame expanded.

In the illustration shown above, the two non-zero subframes of Friend is expanded to show the incorporation of element '7' of Figure 3A of Yamazaki into the individual pulses (subframes) of Friend. From the above illustration, it may be determined that even if the teachings of Friend and Yamazaki were combined, the combination would not result in a system that divides the frame into two adjacent non-zero subframes, as neither Friend nor Yamazaki provides any teaching the element of dividing the frame into first and second adjacent subframes.

In determining whether a claim is obvious in view of the teachings found prior to the filing of the instant application, the Court in *KSR v. Teleflex* (citation omitted) held that a bright light application of the teaching, suggestion and motivation test (TSM) may be used as a helpful hint in determining obviousness and that the factors for determining obviousness are enumerated in *Graham v.*

John Deere (i.e., the scope and content of the prior art, the level of ordinary skill in the art, the differences between the claimed invention and the prior art and objective indicia of non-obviousness) are to be applied.

The teaching, suggestion and motivation test held that a claimed invention is prima facie obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations.

Neither Friend nor Yamazaki provide any teaching regarding dividing the frame into a first and second adjacent, non-zero frames as is recited in the claims. .

Thus, even if the teaches of Yamazaki were combined with the teachings of Friend, the combination would fail to teach or suggest all the recited claim elements.

For the remarks submitted herein, applicant submits that the reason for the rejection of the independent claims has been overcome, as the independent claims recite subject matter that is patently distinguishable over that taught by the cited reference.

With regard to the rejection of the remaining claims, each of these claims depends from one of the independent claims and, hence, is also not anticipated by the cited reference by virtue of their dependency upon an allowable base claims.

With regard to the reject of the remaining claims rejected under 35 USC 103, applicant submits that these claims depend from corresponding ones of the independent claims, and, hence, inherent the subject matter recited that has

been shown not to be disclosed by the cited reference, Friend. Yamazaki fails to provide any teaching to correct the deficiency found to exist in Friend.

Accordingly, the remaining claims are also not rendered obvious by the combination of the cited references, as the combination of the cited references fails to disclose all the elements claimed.

For the remarks made herein, Applicant submits that all the claims are in allowable form and respectfully requests that the rejections of the claims be withdrawn and a Notice of Allowance be issued.

Applicant denies any statement, position or averment stated in the Office Action that is not specifically addressed by the foregoing. Any rejection and/or points of argument not addressed are moot in view of the presented arguments and no arguments are waived and none of the statements and/or assertions made in the Office Action is conceded.

Applicant makes no statement regarding the patentability of the subject matter recited in the claims prior to this Amendment and has amended the claims solely to facilitate expeditious prosecution of this patent application. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by the originally filed claims, as presented prior to this Amendment, and any additional claims in one or more continuing applications during the pendency of the instant application.

In order to advance the prosecution of the matter, applicant respectively requests that any errors in form that do not alter the substantive nature of the arguments presented herein be transmitted telephonically to the applicant's representative so that such errors may be quickly resolved or pursuant to MPEP 714.03 be entered into the record to avoid continued delay of the prosecution of this matter any further.

MPEP 714.03 affords the Examiner the discretion, pursuant to 37 CFR 1.135 (c), to enter into the record a bona fide attempt to advance the application that includes minor errors in form.

> "[a]n Examiner may treat an amendment not fully responsive to a non-final Office Action by: (A) accepting the amendment as an adequate reply to the non-final Office action to avoid abandonment ... (B) notifying the applicant that the reply must be completed... (C) setting a new time period for applicant to complete the reply ...
>
> The treatment to be given to the amendment depends upon:
> (A) whether the amendment is bona fide; (B) whether there is sufficient time for applicant's reply ... (C) the nature of the deficiency.
>
> Where an amendment substantially responds to the rejections, objections or requirements in a non-final Office action (and is bona fide attempt to advance the application to final action) but contains a minor deficiency (e.g., fails to treat every rejection, objection or requirement), the examiner may simply act on the amendment and issue a new (non-final or final) Office action. The new Office action may simply reiterate the rejection, objection or requirement not addressed by the amendment (or otherwise indicate that such rejection, objection or requirement is no longer applicable).
>
> This course of action would not be appropriate in instances in which an amendment contains a serious deficiency (e.g., the amendment is unsigned or does not appear to have been filed in reply to the non-final Office action)..."

Although, the instant Office action has been made Final, applicant submits that the amendments to the claims should be entered into the record as the amendments merely correct a typographical error and have no effect on the scope of the invention claimed.

However, if the Examiner believes that such minor errors in form cannot be entered into the record or that the disposition of any issues arising from this response may be best resolved by a telephone call, then the Examiner is invited to contact applicant's representative at the telephone number listed below to resolve such minor errors or issues.

Respectfully submitted,
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Date: October 8, 2011

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